U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

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March 31, 2008

SUMMARY OF SUBJECT MATTER

TO: Members of the Subcommittee on Economic Development, Public Buildings, and Emergency Management

FROM: Subcommittee on Economic Development, Public Buildings, and Emergency Management Staff

SUBJECT: Hearing on "A Growing Capitol Complex and Visitor Center: Needs for Transportation, Security, Greening, Energy, and Maintenance"

PURPOSE OF THE HEARING

On Tuesday, April 1, 2008, at 10:00 a.m. in room 2167 Rayburn House Office Building, the Subcommittee on Economic Development, Public Buildings, and Emergency Management will examine the Capitol Complex Master Plan and the Capitol Visitor Center, with a focus on transportation, security, greening initiatives, energy, and maintenance.

BACKGROUND

The United States Capitol Complex ("Capitol Complex") consists of the U.S. Capitol, the Cannon, Longworth, Rayburn and Ford House Buildings, the Hart, Dirksen, and Russell Senate Office Buildings, the U.S. Botanic Garden, the Capitol Grounds, the Library of Congress buildings, the U.S. Supreme Court Building, and the Capitol Power Plant. The Capitol Complex contains approximately 16.5 million square feet of building space including surface and below grade parking structures, and special purpose space such as the power plant, storage, and child care centers, housed in historic as well as modern buildings over approximately 450 acres. The replacement value for these facilities is approximately $9 billion. The Architect of the Capitol ("AOC") is responsible for maintaining the Capitol Complex.

During the 1930s, which signaled the beginning of the modern construction era of the Capitol, the Capitol Complex underwent significant construction. In 1933, the U.S. Botanic Garden Conservatory, and Bartholdi fountain and park were completed. Further, during that same year, the Senate Office Building's First Street wing was added, and the Longworth House Office Building was

completed and occupied. In 1935, the U.S. Supreme Court Building was completed. In 1939, the Library of Congress' annex, the John Adams Building, was completed. The Cannon House Office Building, completed in 1908, preceded all these office buildings and was the first congressional office building.

By the early 1950s, attention returned to the need for more congressional office space. This need led to the construction of a second building for the Senate, the Dirksen Senate Office Building, which was completed in 1958. The Rayburn House Office Building, the third building on the House side of the Capitol, opened in 1965. Both the O'Neill Building and the Ford Building became available to the AOC for office use during the 1970s. In 2002, the O'Neill House Office Building was demolished. The Library of Congress James Madison Memorial Building opened in 1980. On the Senate side of Capitol Hill, the Senate's third building, the Hart Senate Office Building, was completed and occupied in 1982. Finally, in 1992, the Thurgood Marshall Federal Judiciary Building, which is located next to Union Station, was occupied and opened.

In addition to office space, the AOC constructed a support facility for the Botanic Gardens in Anacostia, Washington, DC.

Capitol Complex Master Plan

In 2001, the Senate Appropriations Committee instructed the Architect of the Capitol to contract for the "necessary expertise" to develop a master plan. S. Rept. 107-31. The AOC contracted with the National Academy of Sciences to fulfill this obligation and begin the initial steps to develop a Capitol Complex Master Plan. The Senate report states:

> In addition, the Architect does not have a long-term capital plan, despite its reference to its capital budget as a 5-year plan. In reality, the projects and associated funding change dramatically from year-to-year leaving the Congress without a clear vision of its long-range capital requirements and priorities. The Architect is directed to contract within 30 days of enactment of this Act for necessary expertise to develop a 5-year master plan for the Capitol complex.

The objective was for the AOC to develop a long-term and long-range planning document which would move project planning from an anecdotal exercise to one grounded in a schedule and budget framework. Plans for long-term maintenance, repair, alteration, and construction would be linked to budgeting and schedules. Such a plan would help ensure the most appropriate level of asset management for the Capitol Complex.

As the process unfolded, the AOC identified adequate documentation, long-term planning, and prioritization as essential elements in its plan to preserve and maintain the Capitol Complex. The AOC subsequently incorporated these elements into a series of summaries addressing fundamental areas of the Capitol Complex Master Plan.

These fundamental areas are:

- Sustainability Framework Plan
- Landscape & Open Space Framework Plan
- Utilities and Infrastructure Framework Plan
- Historic and Cultural Assets Framework Plan
- Security Framework Plan
- Transportation Framework Plan
- U.S. House of Representatives Jurisdiction Plan
- U.S. Senate Jurisdiction Plan
- U.S. Botanic Garden Jurisdiction Plan
- Capitol Power Plant Jurisdiction Plan
- U.S. Capitol Police & AOC Security Programs Jurisdiction Plan
- U.S. Capitol Jurisdiction Plan
- Library of Congress Jurisdiction Plan
- Capitol Grounds & General Facilities Jurisdiction Plan.

Each summary contains assumptions, actions, desired outcomes, and an action plan. The hearing will focus on the Master Plan and the component parts of transportation, security, greening efforts, energy, and maintenance.

Capitol Power Plant Jurisdiction Plan

The Capitol Power Plant Jurisdiction Plan for the Capitol Complex contemplates four major capitol projects over the next 15 years. These projects include utility tunnels for the Capitol Complex Infrastructure, stack renewal for the Boiler Plant, cogeneration and distribution for the East Refrigeration Plant, and Boiler Plant renewal for the Boiler Plant. The Master Plan envisions that the Capitol Power Plant will continue to operate at its current location while using multiple fuel sources and continuing to optimize and enhance Plant performance through the utilization of sustainable practices.

Transportation Framework Plan

The Transportation Framework Plan for the Capitol Complex depends heavily on effective regional connectivity to the Washington, DC metropolitan region public transit system. The Master Plan for the Capitol Complex calls for limiting future street closures and maintaining and improving existing parking facilities. However, the Plan goal is to gradually decreasing the ratio of parking spaces to the number of employees. Even with 28 percent of Capitol Complex employees using public transit, the Transportation Framework Plan encourages more connectivity between transit services and identifies additional incentives for transit users. The Transportation Framework Plan also encourages bicycle use by implementing incentives for bicycle commuters along with improvements to sidewalks and campus connections to encourage pedestrian traffic.

Security Framework Plan

The Security Framework Plan for the Capitol Complex has the overarching goal of deterring criminal or terrorist incidents on the grounds of the Capitol Complex. To improve security of the Capitol Complex, the Master Plan contemplates eliminating or reducing parking under buildings, providing off-site delivery/screening facilities and hardening building facades where needed. The Security Framework Plan also calls for expansion of the Capitol Interest Overlay, which would provide the Architect of the Capitol with the opportunity to influence economic development along the South Capitol Street corridor that may impact security on the Capitol Complex.

Sustainability Framework Plan

The Sustainability Framework Plan calls for implementing sustainable operations practices and procedures to reduce the environmental and carbon footprint of the Capitol Complex. The Plan calls for the use of renewable and alternative forms of energy like photovoltaics, wind power, and fuel cells. In addition, the Plan would create and implement policies to encourage green purchasing. The Sustainability Framework Plan also calls for energy, water, and waste audits for the facilities of the Capitol Complex to promote efficiency while also pursuing cleaner sources of fuel to reduce the Capitol Complex contribution to air pollution in the Washington, DC metropolitan area.

Utility and Infrastructure Framework Plan

The Utility and Infrastructure Framework Plan calls for relocating utility lines to enable the further development of the Capitol Complex while reducing the burden on the combined sewer system by limiting stormwater runoff and reducing wastewater generation. To promote water efficiency, the Plan calls for reduced usage of potable war. The Plan also contemplates the expansion of the Capitol Power Plant, the construction of electricity interconnections and generation to improve redundancy and to continue to have natural gas provided by Washington Gas.

Architect of the Capitol Budget Request

The AOC Fiscal Year 2009 Budget Request highlights the significant capital asset needs of the Capitol Complex. Primarily due to limited funding over a period of years, there exists a significant backlog of both deferred maintenance and capital renewal projects. The AOC's analysis indicates that it will need $3.2 billion over the next five years to cure the deferred maintenance backlog and capital renewal projects as well as provide funds for scheduled revitalizations and renewals. In fiscal year 2009, the AOC requests $643 million, which is $200 million, or 55 percent, more than the AOC's fiscal year 2008 appropriation.

The AOC defines deferred maintenance as "maintenance or repair work on existing facilities and infrastructure that is past due and is already detrimentally affecting the building or facility." For example, the list of deferred maintenance includes vehicle barriers on Independence Avenue, air handling replacement units for the Library of Congress' Thomas Jefferson Building, firefighter telephones, and emergency lighting upgrades throughout the Capitol Complex. Several projects in the design phase have been deferred such as emergency lighting upgrades in the Cannon House Office Building, fire protection systems upgrades in all house tunnels, and sustainable gardens for Bartholdi Park.

Capital renewal projects are defined as projects to "prevent a situation for deteriorating to where a deferred maintenance situation exists." According to the AOC, capital renewal projects are those which will correct unacceptable conditions caused by aged building components that will exceed their useful life within the next 10 years Capital renewal projects may be performed by reconstruction or replacement of essential parts damaged or deteriorated to the point where the parts cannot be maintained.

In addition to funding shortfalls, there are increased maintenance demands due to buildings being added to the AOC inventory such as the Senate Mail Facility, and the Alternate Computing Facility located in Manassas, Virginia. Furthermore, increased security requirements and energy requirements impact the budget and the prioritization of projects.

Capitol Complex Energy Independence and Security

On June 20, 2007, the Committee on Transportation and Infrastructure ordered reported H.R. 2701, the "Transportation Energy Security and Climate Change Mitigation Act of 2007". The bill included several provisions to promote energy efficiency of the U.S. Capitol Complex. These provisions were incorporated into P.L. 110-140, the "Energy Independence and Security Act of 2007". The provisions include:

- **Section 501. Capitol Complex Photovoltaic Roof Feasibility Studies.** This section authorizes the Architect of the Capitol to conduct feasibility studies regarding construction of photovoltaic roofs for the Rayburn House Office Building and the Senate Hart Building and submit a report on the results of the studies along with recommendations.

  Status: The feasibility study for the Rayburn House Office Building has been completed. Based on the study, the AOC has opted to complete a design and cost analysis for the installation of a building integrated photovoltaic ("BIPV") roof system with exposed PVC roofing membrane. A consolidated report including the Senate Hart Office Building will be completed shortly. A report including results and recommendations will be transmitted to the Committee by June 2008.[1]

- **Section 502. Capitol Complex E-85 Refueling Station.** This section authorizes the Architect of the Capitol to construct a fuel tank and pumping system for E-85 fuel to be available for use by all Legislative Branch vehicles.

  Status: The cost estimate for the project is $640,000. The AOC has requested permission to reprogram available resources to fund this project this fiscal year.

- **Section 503. Energy and Environmental Measures in Capitol Complex Master Plan.** This section directs the Architect of the Capitol to include energy efficiency and conservation measures, greenhouse gas emission reduction measures, and other appropriate environmental measures in the Capitol Complex Master Plan and submit a report on the measures taken.

  Status: The AOC is on schedule to provide the requested report by June 16, 2008. Prior to submitting our report, we will modify our Sustainability Framework Plan to reflect the "Greening of the Capitol" report and the many initiatives that the AOC have undertaken in response to the Energy Act.

- **Section 504. Promoting Maximum Efficiency in Operation of Capitol Power Plant.** This section directs the Architect of the Capitol to operate the boiler system and chiller system at the Capitol Power Plant ("CPP") in the most energy efficient manner possible. This section also directs the AOC to evaluate the accuracy of the meters at the CPP. Finally, this section requires that the AOC submit a report describing the actions taken.

  Status: The Capitol Power Plant has created an on-going program to revise standard operating procedures and continually review operations of the boiler and chiller plants to

[1] The status of implementation of the Energy Independence and Security Act Capitol Complex provisions is based upon information provided by the Architect of the Capitol.

improve efficiencies. A full report on this initiative will be submitted in June 2008. In 2007 an independent consultant performed an audit of the CPP reimbursable meters for non-Legislative Branch buildings served by the CPP to identify potential improvements in metering selections to improve meter and billing accuracy. Concurrently, the AOC was researching alternative meters to monitor steam and chilled water supplied to Legislative Branch buildings.

In September 2007, the AOC awarded a construction contract to install highly accurate chilled water meters throughout the Capitol Complex. The AOC is installing meters in the Capitol Building, House Office Buildings, and CPP with a goal of project completion in 2008.

To address the requirement regarding the evaluation and installation of metering at the CPP, the CPP evaluated the phased replacement of CPP metering through both the West Refrigeration Plant Expansion project and Distribution System metering replacement. The CPP also verified that all existing meters are being calibrated and maintained as per the meter manufacturers recommendation, and that all new meters are calibrated and certified by the meter manufacturer or their representative. To date, the CPP is using metering as outlined in the WRPE design and will continue to evaluate and update metering to ensure that the CPP operates the plant in the most efficient manner possible.

- **Section 505. Capitol Power Plant Carbon Dioxide Emissions Feasibility Study and Demonstration Projects.** This section directs the Architect of the Capitol to conduct a feasibility study evaluating the available methods to capture, store and use carbon dioxide emitted from the CPP. If the feasibility study determines that a demonstration project is technologically feasible and economically justified, the AOC may conduct one or more demonstration projects to capture and store or sue carbon dioxide emitted from the CPP.

Status: The AOC has worked with both the U.S. Environmental Protection Agency and the Department of Energy ("DOE") to determine the most appropriate scope of work to meet the intent of this requirement. As a result the AOC has created a draft Inter-Agency Agreement ("IAA") for review by the DOE. The abbreviated scope of work being provided by DOE includes:

1. Identify commercially available carbon capture technologies that could be applied at the CPP, either as a retrofit to, or replacement of, the existing equipment.

2. Identify potential strategies for disposing of the captured carbon dioxide ("CO_2") including geologic sequestration and alternative uses including but not limited to the conversion into food-grade CO_2 or bio-fuels.

3. Complete a screening analysis that assesses the technical and economic feasibility of implementing the identified capture technologies and disposal strategies at the CPP, and compares the most attractive options.

4. Complete a feasibility study that assesses the technical and economic feasibility of implementing potential technologies as a demonstration project opposed to full scale carbon sequestration.

PRIOR LEGISLATIVE AND OVERSIGHT ACTIVITY

On May 11, 2007, the Committee on Transportation and Infrastructure held a hearing on "Administration Proposals on Climate Change and Energy Independence". Acting Architect of the Capitol Stephen Ayers and Chief Administrative Office Daniel Beard testified at this hearing regarding energy efficiency and climate change mitigation initiatives in the Capitol Complex.

On June 8, 2007, the Subcommittee on Economic Development, Public Buildings, and Emergency Management held a hearing on "What Visitors can Expect at the Capitol Visitor Center: Transportation, Access, Security, and Visuals".

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WITNESSES

Mr. Stephen T. Ayers, AIA
Acting Architect of the Capitol
U.S. Capitol

Ms. Terrie Rouse
Chief Executive Officer for Visitor Services
Capitol Visitor Center

The Honorable Daniel P. Beard
Chief Administrative Officer
U.S. House of Representatives

Chief Philip Morse
U.S. Capitol Police

Mr. Emeka Moneme
District of Columbia Director of Transportation

Mr. James Pew
EarthJustice

Mr. Peter Pantuso
President and Chief Executive Officer
American Bus Association